

Preliminary Working Draft – Do Not Copy or Quote

Figure 1

Fiber Type	Operation	Cohort	EPA (1986)		This update		EPA (1986)		This update		Reference	
			KLx100	Reference	KLx100	Range	KMx10 <sup>6</sup>	Reference	KMx10 <sup>6</sup>	Range		
Chrysotil	Mining and Milling	Quebec mines mills	0.06 0.17	McDonale <sup>t</sup> <i>al.</i> , (1980) Nichols <sup>e</sup> t <i>al.</i> , (1979)	0.029	(0.0085, 0.11)	Liddell <sup>e</sup> t <i>al.</i> (1997)					
		Asbestos, Que Theford Mine: Quebec							0.013	(0.003, 0.049)	Liddell <i>et al.</i> (1997) (6)	
		Italian mine ar mill	0.081	Piolatto <sup>e</sup> t <i>al.</i> (1990)	0.035	(0, 1.1)	Piolatto <i>et al.</i> (1991)			0.021	(0.0065, 0.065)	Liddell <i>et al.</i> (1997) (6)
	Friction Products	Connecticut pl	0.01	McDonale <sup>t</sup> <i>al.</i> , (1984)	0	(0, 2.2)	(1984)		0	(0, 0.9)	McDonale <sup>t</sup> <i>al.</i> (1984)	
	Cement manufactur	New Orleans plants			0.4	(0, 1.6)	Hughe <sup>e</sup> t <i>al.</i> (1987)		0.2	(0.028, 1.4)	Hughe <sup>e</sup> t <i>a.</i> (1987)	
	Textiles	South Carolin: plant	2.8	Demen <sup>e</sup> t <i>al.</i> (1983)	2.4	(0.81, 5.6)	Demen <sup>e</sup> t <i>al.</i> (1994 raw data)		0.11	(0.037, 0.25)	per. comm. Dement	
2.5			McDonale <sup>t</sup> <i>al.</i> , (1983a)	1.15	(0.22, 4.9)	McDonale <sup>t</sup> <i>al.</i> (1983a)		0.088	(0.002, 1.6)	McDonale <sup>t</sup> <i>a.</i> (1983a)		
Crocidoli	Mining and Milling	Whitenoorn, Australia			0.47	(0.08, 6.9)	DeKlerk, unpublsh data		7.9	(3.5, 18)	DeKlerk, unpublsh	
Amosite	Insulation manufact	Patterson, N. factory	4.3	Seidman (1984)	2.6	(0.17, 27)	Seidman (1986)	3.2	Seidman (1984)	3.9	(0.74, 20)	Seidman (1986)
		Tyler, Texas factory			0.13	(0, 6.6)	Levine <sup>t</sup> <i>a.</i> (1998)					
Tremolite	Vermiculite mines ar	Libby, Montan			0.61 0.64	(0.04, 5.3) (0.025, 4.7)	(1987) (1986)					
Mixed	Friction Products	British factor	0.058	Berry and Newhou <sup>e</sup> (1	0.058	(0, 2.4)	Berry and Newhou <sup>e</sup> (1983)					
	Cement manufactur	Ontario factor New Orleans plants	4.8	Finkelstein (1983)	1.2	(0, 29)	Finkelstein (1984)	12	Finkelstein (1983)	18	(2.1, 149)	Finkelstein (1984)
		Swedish plant	0.53	Weill <sup>e</sup> t <i>al.</i> , (1979); Weill <sup>e</sup> <i>i</i>	0.4	(0, 1.6)	Hughe <sup>e</sup> t <i>al.</i> (1987)		0.3	(0.062, 1.4)	Hughe <sup>e</sup> t <i>al.</i> (1987)	
		Belgium factor			0.07 0	(0, 25.9) (0, 0.84)	Albire <sup>t</sup> <i>al.</i> (1990) Laquet <sup>e</sup> t <i>al.</i> (1980)					
	Factory workers	U.S. retirees Asbestos, Que	0.49	Henderson and Enterlin <sup>e</sup>	0.15	(0.011, 1)	(1986)			0.092	(0.02, 0.35)	Liddell <i>et al.</i> (1997) (6)
	Insulation applicator	U.S. insulatio workers	0.75	Selikoff <sup>e</sup> t <i>al.</i> , (1979)	0.4	(0.012, 5.1)	Selikoff and Seidr <sup>e</sup> (1991)	1.5	Selikoff <i>etal.</i> (1979)	1.3	(0.25, 6.5)	Selikoff and Seidman
	Textiles	Pennsylvania p Rochedale, England plant	1.4	McDonale <sup>t</sup> <i>al.</i> , (1983b)	1.8	(0.073, 16.5)	(1983b)		1.1	(0.13, 8.8)	McDonale <sup>t</sup> <i>al.</i> (1983b)	
1.1			Peto (1980)	0.9	(0.16, 5)	Peto (1985)	1	Peto (1980); Peto <i>et al.</i> (1982)	1.31	(0.28, 5.6)	Peto (1985)	

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Figure 2

Cancer of Lung, Trachea, or Bronchus by Cumulative Exposure Level among Workers in Quebec Chrysotile Mines and Mills Liddelle <i>et al.</i> , (1997)							
Deaths from Cancer of lung, trachea, or bronchus							
		Observed	SMR	Expected	Predicted by model		
mppfc-y	f-y/ml				( $\alpha=1$ )	( $\alpha$ estimated)	
1.5	(<3)	4.71	75	1.12	67.0	67.1	77.0
6.5	(3-10)	20.41	64	1.27	50.4	50.8	58.2
20	(10-30)	62.8	61	1.03	59.2	60.8	69.2
45	(30-60)	141.3	60	1.32	45.5	48.1	54.3
80	(60-100)	251.2	61	1.45	42.1	46.4	51.8
150	(100-200)	471	67	1.27	52.8	63.0	68.8
250	(200-300)	785	35	1.1	31.8	42.1	44.8
350	(300-400)	1099	29	1.46	19.9	28.8	30.1
700	(400-1000)	2198	88	1.84	47.8	91.1	89.9
1500	(>1000)	4710	47	2.97	15.8	46.5	43.0
Goodness of fit p-value						0.18	0.58
Test of $H_0: \alpha=1$							
p = 0.01							
Estimates of KL (f-y/ml) <sup>1</sup>							
( $\alpha = 1$ )							
KL = 0.00041							
90% CI: (0.00032, 0.00051)							
( $\alpha$ variable )							
KL = 0.00029							
90% CI: (0.00019, 0.00041)							